

CLAIMS

1. A method of manufacturing an optical film comprising:
 - forming a separation layer on a first substrate;
 - forming a subject body having an optical filter on the separation layer;
 - 5 attaching a second substrate to the subject body by using a first adhesive material so that the second substrate faces the first substrate; and
 - separating the first substrate and the separation layer from the subject body in a region between the separation layer and the subject body.
- 10 2. A method of manufacturing an optical film comprising:
 - forming a separation layer on a first substrate;
 - forming a subject body having an optical filter on the separation layer;
 - attaching a support medium to the subject body by using a peelable adhesive agent so that the support medium faces the first substrate; and
 - 15 separating the first substrate and the separation layer from the subject body in a region between the separation layer and the subject body;
 - forming a second substrate on the subject body using an adhesive material;
 - separating the support medium and the peelable adhesive agent from the subject body.
- 20 3. A method of manufacturing an optical film according to claim 1, wherein the separation layer is formed of an element selected from titanium, aluminum, tantalum, tungsten, molybdenum, copper, chromium, neodymium, iron, nickel, cobalt, ruthenium, rhodium, palladium, osmium, iridium; or a single layer made from an alloy material or a compound material having the elements as its main constituent; or a lamination layer thereof.
- 25 4. A method of manufacturing an optical film according to claim 2, wherein the separation layer is formed of an element selected from titanium, aluminum, tantalum, tungsten, molybdenum, copper, chromium, neodymium, iron, nickel, cobalt, ruthenium,
- 30 5. A method of manufacturing an optical film according to claim 1, wherein the separation layer is formed of an element selected from titanium, aluminum, tantalum, tungsten, molybdenum, copper, chromium, neodymium, iron, nickel, cobalt, ruthenium, rhodium, palladium, osmium, iridium; or a single layer made from an alloy material or a compound material having the elements as its main constituent; or a lamination layer thereof.

rhodium, palladium, osmium, iridium; or a single layer made from an alloy material or a compound material having the elements as its main constituent; or a lamination layer thereof.

5 5. A method of manufacturing an optical film according to claim 1, wherein the subject body comprising silicon oxide, silicon oxynitride, or metal oxide.

6. A method of manufacturing an optical film according to claim 2, wherein the subject body comprising silicon oxide, silicon oxynitride, or metal oxide.

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7. A method of manufacturing an optical film comprising:

forming a metal layer on a first substrate;

forming an insulating layer on the metal layer;

forming an optical filter on the insulating layer;

15 forming a first adhesive material on the optical filter:

forming a second substrate on the first adhesive material; and

separating the first substrate from the optical filter in a region between the metal layer and the insulating layer.

20 8. A method of manufacturing an optical film comprising:

forming a metal layer on a first substrate;

forming an insulating layer on the metal layer;

forming an optical filter on the insulating layer;

forming a peelable adhesive agent on the optical filter;

25 forming a support medium on the optical filter;

separating the first substrate from the optical filter in a region between the metal layer and the insulating layer; and

forming a second substrate on the insulating film by using an adhesive material; and

30 separating the support medium and the peelable adhesive agent from the optical

filter.

9. A method of manufacturing an optical film comprising:

- forming a metal layer on a first substrate;
- 5 forming an insulating layer on the metal layer;
- forming an optical filter on the insulating layer;
- forming a peelable adhesive agent on the optical filter;
- forming a support medium on the optical filter;
- separating the first substrate from the optical filter in a region between the
- 10 metal layer and the insulating layer; and
- forming a second substrate over the insulating film by using an adhesive material; and
- separating the support medium and the peelable adhesive agent from the optical
- filter.

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10. A method of manufacturing an optical film according to any one of claims 7 to 9, separation between the metal layer and the insulating layer is caused by a physical means.

20 11. A method of manufacturing an optical film comprising:

- forming a metal layer on a first substrate;
- forming an insulating layer on the metal layer;
- forming an optical filter on the insulating layer;
- attaching a second substrate to the optical filter by using a first adhesive
- 25 material so that the second substrate faces the first substrate; and
- separating the first substrate from the optical filter in a region between the metal layer and the insulating layer by a physical means.

12. A method of manufacturing an optical film comprising:

- 30 forming a metal layer on a first substrate;

forming an insulating layer on the metal layer;
forming an optical filter on the insulating layer;
attaching a support medium to the optical filter by using a peelable adhesive agent that the support medium faces the first substrate;
5 separating the first substrate from the optical filter in a region between the metal layer and the insulating layer by a physical means; and
forming a second substrate on the insulating film by using an adhesive material; and
separating the support medium and the peelable adhesive agent from the optical
10 filter.

13. A method of manufacturing an optical film comprising:
forming a metal layer on a first substrate;
forming an insulating layer on the metal layer;
15 forming an optical filter on the insulating layer;
attaching a support medium to the optical filter by using a peelable adhesive agent so that the support medium faces the first substrate;
separating the first substrate from the optical filter in a region between the metal layer and the insulating layer by a physical means; and
20 forming a second substrate over the insulating film by using an adhesive material; and
separating the support medium and the peelable adhesive agent from the optical filter.

25 14. A method of manufacturing an optical film according to any one of claims 7, 8, 9, 11, 12 and 13, wherein a metal oxide film is formed between the metal layer and the insulating layer simultaneously with the formation of the metal layer and the insulating layer.

30 15. A method of manufacturing an optical film according to any one of claims 7, 8, 9,

11, 12 and 13, wherein before forming the optical film, a metal oxide film is formed between the metal layer and the insulating layer by heating after forming the insulating layer.

5 16. A method of manufacturing an optical film according to any one of claims 7, 8, 9, 11, 12 and 13, wherein after forming the optical filter, a metal oxide film is formed between the metal layer and the insulating layer by heating.

10 17. A method of manufacturing an optical film according to any one of claims any claims 7, 8, 9, 11, 12 and 13, wherein the insulating layer is formed after forming a metal oxide film by oxidizing a surface of the metal layer.

15 18. A method of manufacturing an optical film according to any one of claims 14, 15, 16, and 17, wherein separation is caused between the metal layer and the metal oxide film, or between the metal oxide film and the insulating layer, or in the metal oxide film by a physical means.

20 19. A method of manufacturing an optical film according to any one of claims 7, 8, 9, 11, 12 and 13, wherein the metal layer is formed of an element selected from titanium, aluminum, tantalum, tungsten, molybdenum, copper, chromium, neodymium, iron, nickel, cobalt, ruthenium, rhodium, palladium, osmium, iridium; or a single layer made from an alloy material or a compound material having the elements as its main constituent; or a lamination layer thereof.

25 20. A method of manufacturing an optical film according to any one of claims 7, 8, 9, 11, 12 and 13, wherein the insulating layer comprising silicon oxide, silicon oxynitride, or metal oxide.

30 21. A method of manufacturing an optical film according to any one of claims 1, 2, 7, 8, 9, 11, 12 and 13, wherein the optical filter is a color filter or a color conversion filter.

22. A method of manufacturing an optical film according to any one of claims 1, 2, 7, 8, 9, 11, 12 and 13, wherein the second substrate is plastic.

5 23. A method of manufacturing an optical film according to any one of claims 1, 2, 7, 8, 9, 11, 12 and 13, wherein the optical film comprises a plurality of optical functions.

24. A method of manufacturing an optical film according to claim 23, wherein the second substrate is a polarizing plate, an elliptical polarizing plate composed of a retardation plate and a polarizing plate, a reflection film, or a light diffusing plate.
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25. A method of manufacturing an optical film according to any one of claims 2, 8, 9, 12 and 13, wherein the support medium is a glass substrate, a quartz substrate, a metal substrate, or a ceramic substrate.

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26. A method of manufacturing an optical film according to any one of claims 2, 8, 9, 12 and 13, wherein the peelable adhesive agent is a reactive peeling adhesive, a thermal peeling adhesive, a light peeling adhesive, or an anaerobic peeling adhesive; or a material having adhesive layers formed of one or more of these on both sides thereof.

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